20 heller 1916 die catalogue, part E

1st edition 23-8-2011
2nd edition 23-8-2012
3rd edition 17-3-2017 1st revision 30-5-2019

Part E shows only HA-DB and HB-DA die-combinations, thus making it easier to search.

Subcategories are bookmarked.

Pictures are better seen if you enlarge the percentage in the toolbar of Acrobat Reader

Attention should be given that HA4d-DB3b starts life as a HA3 and that HA2d-DB3w may show complete left L.

Legend

C	tested copper coins known.
x of z	x copper coins found among a total of z coins of a die combination in my own original lot
>lb	strike-out direction top left
>lo	strike-out direction bottom left
>ro	strike-out direction bottom right
>--	no strike-out direction
cc	circle lines
vs	filing lines
hs	haircrack
br	piece broken off
ds	double struck die
zs	self-strike
HBA	die was used in combination with more then one die
HBA	die used in only one combination, no earlier or later combinations possible
HBA	die replaced, no later combinations possible

730



HA(C)1c-DB3u

DB3u was used before in combination with HA2b. HA(C)1c was afterwards reused first in combination with DA6a and then with DB3v

729 # 205351 730 # 89498 730c # 104008 730g # 62299 2014 # 149156 2015 # 162580 2016 # 177289 2016x # 176279 2017 # 199094 2018 # 215992

HA(C)1c.vs Double struck die, leaves visible in ER LL complete, inner leaf left of top of 2 fully attached to twig. Edges of left side of hole in R square. Top of foot of left L looks like rugby ball. First inner leaf above R long. Circle lines in 20 and Heller Filing lines in twig above R. Line of leaf below R and in right E still visible in combination with DA6d	DB3u In combination with HA(C)1c there is (of course) no self-strike of 19 of DA6d above ER Horizontal and vertical filing lines on a fair part of the die. T and lower ornaments far from the rim.



Leaves in ER, under middle triangle of E and Bottom ER.

825



HA(C)1c-DB3v >--

HA(C)1c was before used in combination with DB3u and DB6a, DB3v was used afterwards with HA3w
823 # 125025 824 # 62270 824 LHH # 159104 824TB # 159105 825 # 62067 826 # 62272 826c # 76795 826k # 102447 827 # 62503 c826c # 76796 2014 # 149157 2015 # 162572 2016 # 177290 2016x # 176298 2017 # 199090 2018 # 215993

HA(C)1c.zs3 Combined self-strikes of DA6d and DB3v. Zs2 is self-strike of DB3v in a slightly higher position	DB3v.vs.hs Plenty of filing lines. Haircracks between rim and right lower ornament and from this ornament over A and T



Bottom right side of die has imploded.

725





HA2b-DB3u >lb

HA2b was used before in combination with DA2a. DB3u was used afterwards with HA(C)1c
725 # 208540

HA2b.hs.hs Additional haircrack bottom right.	DB3u see 730 HA(C)1c-DB3u .

370



HA2d-DB3w >lb

HA2d was afterwards used in combination with DA4c.
367g # 73353 368 # 63201 369 # 63202 369m # 112427 370 # 64076 371 # 72737 c370c # 76783 2014 # 149158 2015 # 162573 2016 # 177291 2016x # 176296 2017 # 199091 2018 # 216004

Half-complete left L. Top of foot of left L visible at a lower level. Top must have got partly broken off positive die. Remnant is visible because production die has been deeply struck, as is testified by the connection of tops of LE. Top of foot of left L slowly fades.

HA2d	DB3w
(half-) complete LL. Long leaf above R, top affected and visible at a lower level. **No inner leaf left of top of 2** Sharp point of lower triangle of right E visible at lower level. Vertical filing lines, 2 circle lines bottom right.	Large die



DB3w.zs2
Self-strike of R and leaf below left ornaments. Earlier ZS1 identical but slightly to left



strike-out >lb

Top of foot of left L nearly disappears.

830



HA3w-DB3v >-- (lb?)

DB3v was used before in combination with HA(C)1c
Raking at 19 would indicate a light strike-out direction top left
829 # 76697 830 # 61396 830k # 73945 831 # 62505 832 # 62743 832b # 224494 c830c # 76698 20PM-830 # 72757 830M1 HA3w-DB3vM 175228 2014 #149159 2015a #162574 2015 162575 2016 176592 2016x #176297 2017 # 199092 2018 # 216025

HA3w.zs Die diameter +/-27,3 mm. Starts with circle lines all over die. Long leaf above R, top affected. Incomplete left L. HA3w.zs, early stage, self-strike of D below R and of ornament and ribbon besides leaves.	DB3v.hs Die diameter ? Some deformation of rim bottom right. Very light signs of strike-out direction top left, incomparable with real >lb on other coins.



495



HA3x-DB3b >lo

DB3b was used before in combination with HB4c and afterwards in combination with HA4d.
Rarest of HA-DB combinations.
495 # 84584 2014 # 149160 2015 # 162576 2016 # 176593 2016x # 176303 2017 # 199087 2018 # 216026

HA3x.vs.hs Filing lines all over. Haircrack top right. No double line at bottom of heller. Leaves nearer to rim as on HA4d. Top right of right E similar to HA4d. Die must have had a very short life span.	DB3b See HB4c-DB3b



500



HA4d-DB3b >lo C 1 of 1

DB3b was used before in combination with HB4c and HA3x.
Shifting dies, shown is not actual die position of this coin, but position for self-strike 3.
HA4d starts life as a HA3.
499 # 62980 499c # 69075 499k# 62499 499ka # 86364 499kb # 112695 499kc # 62529 499z # 191085 500 # 63522 500 LTC # 159100 500 LTC2 # 159087 500AS # 159086 500DS # 114810 501 # 62432 502 # 89508 c499 # 86362 c499k # 76312 c499ka # 76316 c501d # 76314 20M1-499 # 72754 2014 # 149161 2015a # 162577 2015b # 162578 2015c # 162579 2016a # 176594 2016b # 176595 2016x # 176304 2017a # 199089 2017b # 199088 2017c # 198931 2018a # 216031 2018b # 216032

HA4d.vs Double lines at bottom of HELL. Leaves further away from rim than on HA3x. Lots of filing lines.	DB3b See HB4c-DB3b Fat T will lose weight as die grows older.





500+



HA4d-DB3b.zs1

Self-strike 1: self-strike of leaves at right side and to right of T
Most of self-strike 1 will disappear before next self-strike, only lines at right side stays visible.
Self-strikes of 2 and a leaf appear right and left of 1916 (zs1a).
Right E gets affected and starts to look more like HA4.
Raking of lefts side of H and left bottom of 2 starts.



zs1a

500++





HA4d-DB3b.zs2 die position 1

Self-strike 2: self-strike in die position 1 of L between O and A
Self-strike of L will disappear before next self-strike, self-strike of 2 and leaf left of 1 stay visible.
Raking of H and 2 continues, punky splash appears atop 0 .





500+++





HA4d-DB3b.zs3 die position 2

Self-strike 3: self-strike in die position 2 of L between O and A, just a little bit higher and more to the left than zs2
HA die fades away to look a real HA4.





A copper HA4d-DB3b.zs, specific gravity 8.88 gr/cm3, electrical conductivity 26 MS/m.
All (known to me) positive tested copper HA-DB are HA4d-DB3b.zs3
Nearly all copper HA-DB, offered as such in auctions, are HA4d-DB3b.zs3

Whoever has an attested copper HA-DB that is not HA4d-DB3b.zs3, please inform me.

705 (ex 730)





HB3c-DA3a >--

DA3a was before used in combination with HA(C)1b
704 # 121136 704-704DS # 62569 705 # 62568 706 # 76849 20M2 705M # 158973 2014 # 149263 2015a # 162616 2015b # 162617 2016 # 176719 2016x # 176340 2017 # 199196 2018 # 216125

HB3c.hs	DA3a
Haircrack from 3rd outer leaf above R to rim. Haircrack at same place as filing line on HB3a, see 285 # 76944 Filing lines left December 2012 only one known without self-strike, 4 September 2016	Space between cross and rim. Right 1 unaffected, complete right lower ornament.





HB3c.hs.zs, self-strike of 6, upper ornament and A.

770



HB3d-DA6a >--

DA6a was used before in combination with HA3h and HB4d and afterwards in combination with HA(C)1c

769 # 77884 769d # 103608 769k # 79820 770 # 62302 770c # 62301 770DS # 112262 770f # 76836 2014 # 149264 2015 # 162618 2016 # 176720 2016x # 176339 2017 # 199197 2018 # 216126

HB3d.vs.hs An explosion of filing lines. Haircrack from first outer leaf above R over twigs/ribbons	DA6a.cc.vs.hs See 760 HA3h-DA6a Some filing and circle lines still visible on early HB3d-DA6a coins.





480



HB4c-DA11b >lo

HB4c was used afterwards in combination with DA11c and with DB3b.
Some shifting in die position, position shown here is not actual coin's, which is somewhat lower.
480 # 62730 480b # 112264 480c # 83882 480DS # 113986 2014 # 149265 2015 # 162619 2016x # 176342 2017 # 199198 2018 # 216127

HB4c.cc Die diameter 27,7 mm Lots of circle lines.	HA11b.cc Die diameter ? Plenty of circle lines, no filing lines bottom right.



485



HB4c-DA11c >lo

HB4c was used before in combination with DA11b and afterwards with DB3b.
485 # 76283 485c # 96933 20M1-485M 112999 2015 # 162620 2016 # 176722 2016x # 176343

HB4c.cc Die diameter +/-26,8-27 See HB4c-DA11b	HA11c.cc.vs Die diameter ? Plenty of circle lines, filing lines bottom right.



765



HB4d-DA6a

DA6a was used before in combination with HA3h and afterwards in combination with HB3d and HA(C)1c

765 # 70550 767 # 83810 767a # 143108 767DS # 72552 2014 # 149268 2015 # 162621 2016 # 176723 2016x # 176341 2017 # 199200 2018 # 216129

HB4d.vs Double struck die, see shadow lines left of outer leaves left. Deep filing line above right E. HB4 see outer leafs left.	DA6a See 760 HA3h-DA6a. Filing lines and haircrack still visible.



Die damaged bottom right.

780



HB5y-DA8b >--

780 # 62035 780 Z # 159117 780b # 76832 780fd # 180421 780r # 112272 781 # 73949 c780b # 216268 c781 # 76833 c781d # 62528 2014 # 149269 2015a # 162622 2015b # 162623 2016a # 176724 2016b # 176725 2016x # 176407 2017a # 199202 2017b # 199201 2018a # 216130 2018b # 216131

HB5y.cc	DA8b.cc
Die diameter +/- 27,2 mm. Plenty of circle lines with hole in middle. Fat upper outer leaf left often looks like DB4.	Die diameter +/- 27,6 mm. Space between cross and rim. Right 1 unaffected, left one misses part, gun turret right lower ornament. Plenty of circle lines with hole in middle.



Dies deform while circle lines still visible.

840





HB5z-DA9c >-- C

839 # 69129 840 # 61335 841 # 61336 841b # 69130 841bc # 150081 841bp # 158970 841c # 112797 841cd # 151066 841ce # 168711 841d # 69131 841da # 176031 c841 # 76831 c841d # 76830 2014 # 162994 2015a # 162624 2015b # 162625 2016 # 176726 2016x # 176408 2017a # 199204 2017b # 199203 2018a # 216132 2018b # 216133

HB5z.cc Die diameter +/- 27,2 mm. Chicken legs at bottom. Last circle lines in 20.	DA9c.vs.hs.zs Die diameter ?. Right side of bottom of right 1 lower, left one misses part, gun turret right lower ornament. Plenty of filing lines. Self-strike of twig in O. Haircracks right from crown over ribbon to middle ornament and more right from this to lower.





All (known to me) positive tested copper HB-DA are HB5z-DA9c, struck with old dies.
Nearly all copper HB-DA, offered as such in auctions, are HB5z-DA9c, struck with old dies.
Whoever has an attested copper HB-DA that is not HB5z-DA9c, please inform me.
Vast majority of copper HB5z-DA9c contain 0,3% tin.